Aeronautics Educator Guide			
2008 Mathematics			
Grade Level Articulations			
Arizona Mathematics			
Grade 2			
Activity/Lesson	**State**	**Standards**	
Air Engines (12-16)	AZ	MA.2.4.4.PO 2	Apply measurement skills to measure the attributes of an object (length, capacity, weight).
Rotor Motor (69-75)	AZ	MA.2.2.1.PO 1	Collect, record, organize, and display data using pictographs, frequency tables, or single bar graphs.
Rotor Motor (69-75)	AZ	MA.2.2.1.PO 2	Formulate and answer questions by interpreting displays of data, including pictographs, frequency tables, or single bar graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.2.1.1.PO 2	Count forward to 1000 and backward from 1000 by 1s, 10s, and 100s using different starting points.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.2.1.1.PO 3	Identify numbers which are 100 more or less than a given number to 900.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.2.2.1.PO 1	Collect, record, organize, and display data using pictographs, frequency tables, or single bar graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.2.2.1.PO 2	Formulate and answer questions by interpreting displays of data, including pictographs, frequency tables, or single bar graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.2.2.3.PO 1	List all possibilities in counting situations.
Dunked Napkin (17-22)	AZ	MA.2.2.1.PO 1	Collect, record, organize, and display data using pictographs, frequency tables, or single bar graphs.
Dunked Napkin (17-22)	AZ	MA.2.2.1.PO 2	Formulate and answer questions by interpreting displays of data, including pictographs, frequency tables, or single bar graphs.
Paper Bag Mask (23-28)	AZ	MA.2.4.2.PO 1	Identify, with justification, whether a 2-dimensional figure has lines of symmetry.
Paper Bag Mask (23-28)	AZ	MA.2.4.4.PO 2	Apply measurement skills to measure the attributes of an object (length, capacity, weight).
Wind in Your Socks) (29-35)	AZ	MA.2.2.1.PO 1	Collect, record, organize, and display data using pictographs, frequency tables, or single bar graphs.
Wind in Your Socks) (29-35)	AZ	MA.2.2.1.PO 2	Formulate and answer questions by interpreting displays of data, including pictographs, frequency tables, or single bar graphs.
Wind in Your Socks) (29-35)	AZ	MA.2.4.4.PO 2	Apply measurement skills to measure the attributes of an object (length, capacity, weight).

Right Flight (52-59)	AZ	MA.2.4.4.PO 2	Apply measurement skills to measure the attributes of an object (length, capacity, weight).
Delta Wing Glider (60-68)	AZ	MA.2.4.4.PO 2	Apply measurement skills to measure the attributes of an object (length, capacity, weight).
Aeronautics Educator Guide			
2008 Mathematics			
Grade Level Articulations			
Arizona Mathematics			
Grade 3			
Activity/Lesson	**State**	**Standards**	
Air Engines (12-16)	AZ	MA.3.4.4.PO 2	Apply measurement skills to measure length, weight, and capacity using US Customary units.
Air Engines (12-16)	AZ	MA.3.4.4.PO 3.a	Convert units of length, weight, and capacity (inches or feet to yards,)
Rotor Motor (69-75)	AZ	MA.3.2.1.PO 1	Collect, record, organize, and display data using frequency tables, single bar graphs, or single line graphs.
Rotor Motor (69-75)	AZ	MA.3.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including frequency tables, single bar graphs, or single line graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.3.2.1.PO 1	Collect, record, organize, and display data using frequency tables, single bar graphs, or single line graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.3.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including frequency tables, single bar graphs, or single line graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.3.4.4.PO 1.b	Determine elapsed time by hours and half hours using a clock
Making Time Fly (80-86)	AZ	MA.3.2.1.PO 1	Collect, record, organize, and display data using frequency tables, single bar graphs, or single line graphs.
Where is North? The Compass Can Tell Us (87-90)	AZ	MA.3.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including frequency tables, single bar graphs, or single line graphs.
Plan to Fly There (97-106)	AZ	MA.3.4.4.PO 1.b	Determine elapsed time by hours and half hours using a clock
We Can Fly, You and I: Interdisciplinary Learning (107-108)	AZ	MA.3.4.4.PO 1.b	Determine elapsed time by hours and half hours using a clock
We Can Fly, You and I: Interdisciplinary Learning (107-108)	AZ	MA.3.5.2.PO 8	Make and test conjectures based on data (or information) collected from explorations and experiments.
Dunked Napkin (17-22)	AZ	MA.3.2.1.PO 1	Collect, record, organize, and display data using frequency tables, single bar graphs, or single line graphs.

Dunked Napkin (17-22)	AZ	MA.3.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including frequency tables, single bar graphs, or single line graphs.
Dunked Napkin (17-22)	AZ	MA.3.2.3.PO 1	Represent all possibilities for a variety of counting problems using arrays, charts, and systematic lists; draw conclusions from these representations.
Dunked Napkin (17-22)	AZ	MA.3.5.2.PO 8	Make and test conjectures based on data (or information) collected from explorations and experiments.
Paper Bag Mask (23-28)	AZ	MA.3.4.1.PO 1	Describe sequences of 2-dimensional figures created by increasing the number of sides, changing size, or changing orientation.
Paper Bag Mask (23-28)	AZ	MA.3.4.1.PO 4	Describe and compare attributes of two- and three-dimensional figures.
Paper Bag Mask (23-28)	AZ	MA.3.4.2.PO 1	Identify a translation, reflection, or rotation and model its effect on a 2-dimensional figure.
Paper Bag Mask (23-28)	AZ	MA.3.4.2.PO 2	Identify, with justification, all lines of symmetry in a 2-dimensional figure.
Paper Bag Mask (23-28)	AZ	MA.3.4.4.PO 2	Apply measurement skills to measure length, weight, and capacity using US Customary units.
Paper Bag Mask (23-28)	AZ	MA.3.4.4.PO 3.a	Convert units of length, weight, and capacity (inches or feet to yards,)
Wind in Your Socks) (29-35)	AZ	MA.3.2.1.PO 1	Collect, record, organize, and display data using frequency tables, single bar graphs, or single line graphs.
Wind in Your Socks) (29-35)	AZ	MA.3.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including frequency tables, single bar graphs, or single line graphs.
Wind in Your Socks) (29-35)	AZ	MA.3.4.4.PO 2	Apply measurement skills to measure length, weight, and capacity using US Customary units.
Wind in Your Socks) (29-35)	AZ	MA.3.4.4.PO 3.a	Convert units of length, weight, and capacity (inches or feet to yards,)
Wind in Your Socks) (29-35)	AZ	MA.3.5.2.PO 6	Summarize mathematical information, explain reasoning, and draw conclusions.
Wind in Your Socks) (29-35)	AZ	MA.3.5.2.PO 8	Make and test conjectures based on data (or information) collected from explorations and experiments.
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Arizona Mathematics			
Grade 4			
Activity/Lesson	**State**	**Standards**	
Air Engines (12-16)	AZ	MA.4.4.4.PO 2	Apply measurement skills to measure length, mass, and capacity using metric units.

Rotor Motor (69-75)	AZ	MA.4.2.1.PO 1	Collect, record, organize, and display data using double bar graphs, single line graphs, or circle graphs.
Rotor Motor (69-75)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.4.2.1.PO 1	Collect, record, organize, and display data using double bar graphs, single line graphs, or circle graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
Flight: Interdisciplinary Learning Activities (76-79)	AZ	MA.4.4.4.PO 1	Compute elapsed time to the minute.
Making Time Fly (80-86)	AZ	MA.4.2.1.PO 1	Collect, record, organize, and display data using double bar graphs, single line graphs, or circle graphs.
Where is North? The Compass Can Tell Us (87-90)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
Plan to Fly There (97-106)	AZ	MA.4.4.4.PO 1	Compute elapsed time to the minute.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	AZ	MA.4.4.4.PO 1	Compute elapsed time to the minute.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	AZ	MA.4.5.2.PO 8	Make and test conjectures based on data (or information) collected from explorations and experiments.
Dunked Napkin (17-22)	AZ	MA.4.2.1.PO 1	Collect, record, organize, and display data using double bar graphs, single line graphs, or circle graphs.
Dunked Napkin (17-22)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
Dunked Napkin (17-22)	AZ	MA.4.3.4.PO 1	Identify the change in a quantity over time and make simple predictions.
Dunked Napkin (17-22)	AZ	MA.4.5.2.PO 8	Make and test conjectures based on data (or information) collected from explorations and experiments.
Paper Bag Mask (23-28)	AZ	MA.4.4.1.PO 4	Recognize which attributes (such as shape or area) change and which do not change when 2-dimensional figures are cut up or rearranged.

Paper Bag Mask (23-28)	AZ	MA.4.4.3.PO 3	Construct geometric figures with vertices at points on the coordinate plane.
Paper Bag Mask (23-28)	AZ	MA.4.4.4.PO 2	Apply measurement skills to measure length, mass, and capacity using metric units.
Paper Bag Mask (23-28)	AZ	MA.4.4.4.PO 5	Describe the change in perimeter or area when one attribute (length or width) of a rectangle changes.
Wind in Your Socks) (29-35)	AZ	MA.4.2.1.PO 1	Collect, record, organize, and display data using double bar graphs, single line graphs, or circle graphs.
Wind in Your Socks) (29-35)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
Wind in Your Socks) (29-35)	AZ	MA.4.4.4.PO 2	Apply measurement skills to measure length, mass, and capacity using metric units.
Wind in Your Socks) (29-35)	AZ	MA.4.4.4.PO 5	Describe the change in perimeter or area when one attribute (length or width) of a rectangle changes.
Wind in Your Socks) (29-35)	AZ	MA.4.5.2.PO 7	Analyze and evaluate whether a solution is reasonable, is mathematically correct, and answers the question.
Right Flight (52-59)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.
Delta Wing Glider (60-68)	AZ	MA.4.2.1.PO 2	Formulate and answer questions by interpreting and analyzing displays of data, including double bar graphs, single line graphs, or circle graphs.